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B1

SEQUENCE LISTING

<110> Ebersole, Richard C.

Hendrickson, Edwin

<120> NUCLEIC ACID FRAGMENTS FOR THE IDENTIFICATION OF DECHLORINATING BACTERIA

<130> BC1002 US NA

<140> US 09/548,998

<141> 2000-04-14

<150> 60/129,511

<151> 1999-04-15

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aactgaaggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg 180

tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct 240

tcgatcggta gctggtctga gaggatgatc agccacactg ggactgagac acggcccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcacaggga agaataatga 420

cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga 480

agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga 540

tgtgaaattt cccggcttaa ccgggacgtg tcattcaata ctgttggact agagtacagc 600

aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcggga ggaacaccag 660

aggcgaaggc ggttttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa 720

cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat 780

cgaccctctc tgtgccgaag ctaacgctyt aagtgtcccg cctggggagt acggtcgcaa 840

ggctaaaact caaaggaatt gacgggggcc cttacaagca gcggagcgtg tggtttaatt 900

cgatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaaggg 960

aaacgacctg ttaagtcagg agtttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020

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tggagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260

agttggagtt gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg 1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc 1377

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<211> 1378

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 3

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aactgaaggt aataccgcat gtggtgggcc gacataagtt ggttcactaa agccgtaagg 180

tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaacggcc taccaaggct 240

tcgatcggta gcttggtctg agaggatgat cagccacact gggactgaga cacggcccag 300

actcctacgg gaggcagcag caaggaatct tgggcaatgg gcgaaagcct gacccagcaa 360

cgccgcgtga gggatgaagg ctctcgggtt gtaaacctct tttcacaggg aagaataatg 420

acggtacctg tggaataagc ttcggctaac tacgtgccag cagccgcggt aatacgtagg 480

aagcaagcgt tatccggatt tattgggcgt aaagtgagcg taggtggtct ttcaagttgg 540

atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttggac tagagtacag 600

caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca 660

gaggcgaagg cggttttcta ggttgtcact gacactgagg ctcgaaagcg tggggagcga 720

acagaattag atactctggt agtccacgcc ttaaactatg gacactaagt atagggagta 780

tcgaccctct ctgtgccgaa gctaacgctt taagtgtccc gcctggggag tacggtcgca 840

aggctaaaac tcaaaggaat tgacgggggc ccgcacaagc agcggagcgt gtggtttaat 900

tcgatgctac acgaagaacc ttaccaagat ttgacatgca tgaagtagtg aaccgaaagg 960

gaaacgacct gttaagtcag gagtttgcac aggtgctgca tggctgtcgt cagctcgtgc 1020

cgtgaggtgt ttggttaagt cctgcaacga gcgcaaccct tgttgctagt taaattttct 1080

agcgagactg ccccgcgaaa cggggaggaa ggtggggatg acgtcaagtc agcatggcct 1140

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aagttggagt tgctagtaac cgcatatcag caaggtgcgg tgaatacgtt ctcgggcctt 1320

gtacacaccg cccgtcacgt catgaaagcc ggtaacactt gaagtcgatg tgccaacc 1378

<210> 4

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes

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aactgaaggt aataccgcat gtggtgggcc gacatatgtt ggttcactaa agccgtaagg 180

cgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct 240

tcgatcggta gctggtctga gaggatgatc agccacactg ggactgagac acggcccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcataggga agaataatga 420

cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga 480

agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga 540

tgtgaaattt cccggcttaa ccgggacgag tcattcaata ctgttggact agagtacagc 600

aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcggga ggaacaccag 660

aggcgaaggc ggttttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa 720

cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat 780

cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa 840

ggctaaaact caaaggaatt gacgggggcc cgcacaagca gcggagcgtg tggtttaatt 900

cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg 960

gaacgacctg ttaagtcagg aacttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020

gtgaggtgtt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta 1080

gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt 1140

tatatcttgg gctacacaca cgctacaatg gacagaacaa taggttgcaa cagtgtgaac 1200

tggagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260

agttggagtt gctagtaacc gcatatcagc atggtgcggt gaatacgttc tcgggccttg 1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc 1377

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<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 5

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aactgaaggt aataccgcat gtggtgggcc gacatatgtt ggttcactaa agccgtaagg 180

cgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggcc taccaaggct 240

tcgatcggta gctggtctga gaggatgatc agccacactg ggactgagac acggcccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcataggga agaataatga 420

cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga 480

agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga 540

tgtgaaattt cccggcttaa ccgggacgag tcattcaata ctgttggact agagtacagc 600

aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcggga ggaacaccag 660

aggcgaaggc ggttttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa 720

cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat 780

cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa 840

ggctaaaact caaaggaatt gacgggggcc cgcacaagca gcggagcgtg tggtttaatt 900

cgatgctaca cgaagaacct taccaagatt tgacatgcat gtagtagtga actgaaaggg 960

gaacgacctg ttaagtcagg aacttgcaca ggtgctgcat ggctgtcgtc agctcgtgcc 1020

gtgaggtgtt tggttaagtc ctgcaacgag cgcaaccctt gttgctagtt aaattttcta 1080

gcgagactgc cccgcgaaac ggggaggaag gtggggatga cgtcaagtca gcatggcctt 1140

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tggagctaat ccccaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260

agttggagtt gctagtaacc gcatatcagc atggtgcggt gaatacgttc tcgggccttg 1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc 1377

<210> 6

<211> 1377

<212> DNA

<213> Dehalococcoides ethenogenes

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aactgaaggt aataccgcat gtggtgggcc gacataagtt ggttcactaa agccgtaagg 180

tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaacggcc taccaaggct 240

tcgatcggta gctggtctga gaggatgatc agccacactg ggactgagac acggcccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tctcgggttg taaacctctt ttcacaggga agaataatga 420

cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtagga 480

agcaagcgtt atccggattt attgggcgta aagtgagcgt aggtggtctt tcaagttgga 540

tgtgaaattt cccggcttaa ccgggacgtg tcattcaata ctgttggact agagtacagc 600

aggagaaaac ggaattcccg gtgtagtggt aaaatgcgta gatatcggga ggaacaccag 660

aggcgaaggc ggttttctag gttgtcactg acactgaggc tcgaaagcgt ggggagcgaa 720

cagaattaga tactctggta gtccacgcct taaactatgg acactaggta tagggagtat 780

cgaccctctc tgtgccgaag ctaacgcttt aagtgtcccg cctggggagt acggtcgcaa 840

ggctaaaact caaaggaatt gacgggggcc cgcacaagca gcggagcgtg tggtttaatt 900

cgatgctaca cgaagaacct taccaagatt tgacatgcat gaagtagtga accgaaaggg 960

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tggagctaat cctcaaagct gtcctcagtt cggattgcag gctgaaaccc gcctgcatga 1260

agttggagtt gctagtaacc gcatatcagc aaggtgcggt gaatacgttc tcgggccttg 1320

tacacaccgc ccgtcacgtc atgaaagccg gtaacacttg aagtcgatgt gccaacc 1377

<210> 7

<211> 1443

<212> DNA

<213> Dehalococcoides ethenogenes

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<221> misc_feature

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<223> N = A or G or C or T/U, unknown or other (any)

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gtggcaaacg ggtgagtaac gcgtaagtaa cctacctcta agtggggat agcttcggga 120

aactgaaggt aataccgcat gtgatgggct gacataagtc ggttcattaa agccgcaagg 180

tgcttggtga ggggcttgcg tccgattagc tagttggtgg ggtaatggtc taccaaggct 240

tcgatcggta gctggtctga gaggatgatc agccacactg ggactgagac acgggccaga 300

ctcctacggg aggcagcagc aaggaatctt gggcaatggg cgaaagcctg acccagcaac 360

gccgcgtgag ggatgaaggc tttcgggttg taaacctctt ttcacaggga agaataatga 420

cggtacctgt ggaataagct tcggctaact acgtgccagc agccgcggta atacgtaggg 480

aagcaagcgt tatccggatt tattgggcgt aaagtgagcg taggtggtct ttcaagttgg 540

atgtgaaatt tcccggctta accgggacgt gtcattcaat actgttggac tagagtacag 600

caggagaaaa cggaattccc ggtgtagtgg taaaatgcgt agatatcggg aggaacacca 660

gaggcgaagg cggttttcta ggttgtcact gacactgagg ctcgaaagcg tggggagcga 720

acagaattag atactctggt agtccacgcc ttaaactatg gacactaggt atagggagta 780

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cgagactagc gagactgccc cgcgaaacgg ggaggaaggt ggggatgacg tcaagtcagc 1140

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ctgcatgaag ttggagttgc tagtaaccgc atatcagcaa ggtgcggtga atacgttctc 1320

gggccttgta cacaccgccc gtcacgtcat ganagccggt aacacttgaa gtcgatgtgc 1380

caaccgcaag gaggcagtcg ccgagggtgg gactggtaat tgggacgaag tcgtaacaag 1440

gta 1443

<210> 8

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Consensus sequence derived from DHE-PL, DHE-STF, DHE-DAB, DHE-PIN and DHE-DLL at bases E180-E226.

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<222> (5)..(5)

<223> R = A or G

<220>

<221> misc_feature

<222> (11)..(11)

<223> Y = C or T

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<221> misc_feature

<222> (18)..(18)

<223> W = A or T

<220>

<221> misc_feature

<222> (21)..(21)

<223> Y = C or T

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<221> misc_feature

<222> (28)..(28)

<223> Y = C or T

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<221> misc_feature

<222> (37)..(37)

<223> Y = C or T

<220>

<221> misc_feature

<222> (42)..(42)

<223> Y = C or T

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<210> 9

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 9
aagtcgaacg gtcttaagca 20

<210> 10

<211> 20

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<400> 10
cgtcattatt cttccctgtg 20

<210> 11

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 11
gggaaacgac ctgttaagtc a 21

<210> 12

<211> 22

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 12
ggattagctc cagttcacac tg 22

<210> 13

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 13
aaatttaact agcaacaagg 20

<210> 14

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 14
ggagtatcga ccctctctg 19

<210> 15

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 15
gggagtatcg accctctc 18

<210> 16

<211> 18

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<400> 16
agtgaaccga aagggaaa 18

<210> 17

<211> 21

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<400> 17
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<210> 18

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<213> Dehalococcoides ethenogenes

<400> 18
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<210> 19

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 19
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<210> 20

<211> 17

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 20
gatgaacgct agcggcg 17

<210> 21

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<213> Dehalococcoides ethenogenes

<400> 21
gtgccttatg catgcaag 18

<210> 22

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<213> Dehalococcoides ethenogenes

<400> 22
aataggttgc aacagtgtga a 21

<210> 23

<211> 22

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 23
aatggacaga acaataggtt gc 22

<210> 24

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 24
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<210> 25

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 25
gggttgtaaa cctcttttca 20

<210> 26

<211> 20

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 26
taaccgggac gwgtcattca 20

<210> 27

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 27
gagtacagca ggagaaaac 19

<210> 28

<211> 21

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 28
cctccttgcg gttggcacat c 21

<210> 29

<211> 19

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 29
ggcagtctcg ctagaaaat 19

<210> 30

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Consensus sequence derived from DHE-PL, DHE-STF, DHE-DAB, DHE-PIN and DHE-DLL at bases E1001-E1047.

<220>

<221> misc_feature

<222> (3)..(3)

<223> W = A or T

<220>

<221> misc_feature

<222> (14)..(14)

<223> M = A or C

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<221> misc_feature

<222> (22)..(22)

<223> R = A or G

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<221> misc_feature

<222> (43)..(43)

<223> R = A or G

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<221> misc_feature

<222> (44)..(44)

<223> M = A or C

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<210> 31

<211> 18

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 31
attttctacg cgagactg 18

<210> 32

<211> 27

<212> DNA

<213> Dehalococcoides ethenogenes

<400> 32
attttctacg cgagactagc gagactg 27

<210> 33

<211> 1542

<212> DNA

<213> Dehalococcoides ethenogenes

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tgtctgggaa actgcctgat ggaggggGat aactactgga aacggtagct aataccgcat 180

aacgtcgcaa gaccaaagag ggggaccttc gggcctcttg ccatcggatg tgcccagatg 240

ggattagcta gtaggtgggg taacggctca cctaggcgac gatccctagc tggtctgaga 300

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ggaatattgc acaatgggcg caagcctgat gcagccatgc cgcgtgtatg aagaaggcct 420

tcgggttgta aagtactttc agcggggagg aagggagtaa agttaatacc tttgctcatt 480

gacgttaccc gcagaagaag caccggctaa ctccgtgcca gcagccgcgg taatacggag 540

ggtgcaagcg ttaatcggaa ttactgggcg taaagcgcac gcaggcggtt tgttaagtca 600

gatgtgaaat ccccgggctc aacctgggaa ctgcatctga tactggcaag cttgagtctc 660

gtagaggggg gtagaattcc aggtgtagcg gtgaaatgcg tagagatctg gaggaatacc 720

ggtggcgaag gcggcccccc ggacgaagac tgacgctcag gtgcgaaagc gtggggagca 780

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aatgtgcctt cgggaaccgt gagacaggtg ctgcatggct gtcgtcagct cgtgttgtga 1080

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cgggaactca aaggagactg ccagtgataa actggaggaa ggtggggatg acgtcaagtc 1200

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